UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,265	12/14/2001	GopalaKrishna Reddy Kakivaya	MSFT-0736/183220.1	6084

41505	7590	07/27/2005

WOODCOCK WASHBURN LLP
ONE LIBERTY PLACE - 46TH FLOOR
PHILADELPHIA, PA 19103

EXAMINER
HONEYCUTT, KRISTINA B

ART UNIT	PAPER NUMBER
2178	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 April 2005*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   This action is responsive to the amendment filed on April 25, 2005.

This action is made Final.

2.   Claims 1-41 remain pending in the case. Claims 1, 13, 14, 15, 16, 28, 29 and 30

are independent claims.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

Claims 1-41 remain rejected under 35 U.S.C. 101 because the claimed invention

is directed to non-statutory subject matter.

The language of claims 1-41 raises a question as to whether the claimed

methods, mediums and devices are directed merely to an abstract idea that is not tied

to a technological art, environment, or machine which would result in a practical

application producing a concrete, useful, and tangible result to form the basis of

statutory subject matter under 35 U.S.C. §101.

Furthermore, claims 14 and 28 are not embodied in a computer readable

medium. They are merely part of a modulated data signal.

See MPEP §2106 below.

2106 [R-2] Patentable Subject Matter – Computer-Related Inventions

1. Nonstatutory Subject Matter

If the "acts" of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. Schrader, 22 F.3d at 294-95, 30 USPQ2d at 1458-59. Thus, a process consisting solely of mathematical operations, i.e., converting one set of numbers into another set of numbers, does not manipulate appropriate subject matter and thus cannot constitute a statutory process.

In practical terms, claims define nonstatutory processes if they:

- consist solely of mathematical operations without some claimed practical application (i.e., executing a "mathematical algorithm"); or

- simply manipulate abstract ideas, e.g., a bid (Schrader, 22 F.3d at 293-94, 30 USPQ2d at 1458-59) or a bubble hierarchy (Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759), without some claimed practical application.

Cf. Alappat, 33 F.3d at 1543 n.19, 31 USPQ2d at 1556 n.19 in which the Federal Circuit recognized the confusion:

The Supreme Court has not been clear . . . as to whether such subject matter is excluded from the scope of 101 because it represents laws of nature, natural phenomena, or abstract ideas. See Diehr, 450 U.S. at 186 (viewed mathematical algorithm as a law of nature); Gottschalk v. Benson, 409 U.S. 63, 71-72 (1972) (treated mathematical algorithm as an "idea"). The Supreme Court also has not been clear as to exactly what kind of mathematical subject matter may not be patented. The Supreme Court has used, among others, the terms "mathematical algorithm," "mathematical formula," and "mathematical equation" to describe types of mathematical subject matter not entitled to patent protection standing alone. The Supreme Court has not set forth, however, any consistent or clear explanation of what it intended by such terms or how these terms are related, if at all.

Certain mathematical algorithms have been held to be nonstatutory because they represent a mathematical definition of a law of nature or a natural phenomenon. For example, a mathematical algorithm representing the formula $E = mc2$ is a "law of nature" - it defines a "fundamental scientific truth" (i.e., the relationship between energy and mass). To comprehend how the law of nature relates to any object, one invariably has to perform certain steps (e.g., multiplying a number representing the mass of an object by the square of a number representing the speed of light). In such a case, a claimed process which consists solely of the steps that one must follow to solve the mathematical representation of $E = mc2$ is indistinguishable from the law of nature and would "preempt" the law of nature. A patent cannot be granted on such a process.

(a) Functional Descriptive Material: "Data Structures" Representing Descriptive Material Per Se or Computer Programs Representing Computer Listings Per Se

Data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory.

Similarly, computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such

claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. Accordingly, it is important to distinguish claims that define descriptive material per se from claims that define statutory inventions.

To expedite a complete examination of the instant application the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4.   The rejections of Claims 8, 10, 23, 25, 37 and 39 as lacking antecedent basis have been withdrawn as necessitated by the amendment.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 1, 13-16 and 28-30 remain rejected under 35 U.S.C. 102(e) as being

anticipated by Ankireddipally et al. (U.S. Patent 6772216; date of patent August 3, 2004;

filed May 19, 2000).

Regarding independent claim 1, Ankireddipally discloses a method for describing a

service of a device or object in a computing system, comprising:

- describing the service with an extensible markup language (XML)-based

  Interface Description Language (IDL) that one to one maps a type of a particular

  type-based system to an XML schema and vice versa (col. 5, lines 42-45; col. 13,

  lines 1-3 – as demonstrated in the cited text, the service is described with an

  XML-based language that maps a "type" to a schema).

Regarding independent claims 13-16 and 28-30, the claims reflect the computer

readable medium, modulated data signal and computing device with means for

performing the operations of claim 1 and are rejected along the same rationale.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 2, 3, 6, 17, 18, 21, 31, 32 and 35 remain rejected under 35 U.S.C. 103(a)

as being unpatentable over Ankireddipally et al. in view of Lucas et al. (U.S. Pub. No.

20030070158; publication date April 10, 2003; filed February 22, 2002; provisional

application filed July 2, 2001).

Regarding dependent claims 2, 17 and 31, Ankireddipally does not disclose the XML-

based IDL is Type Description Language (TDL). Lucas teaches XML as a Type

Description Language (p.5, para. 43). It would have been obvious to one of ordinary

skill in the art, having the teachings of Ankireddipally and Lucas before him at the time

the invention was made, to modify XML taught by Ankireddipally to include XML as TDL

as taught by Lucas, because Type Description Languages were well-known at the time

of the invention and using TDL's would have allowed more users to utilize the invention

since there was a familiarity with TDL's.

Regarding dependent claims 3, 18 and 32, Ankireddipally discloses a one to one

mapping from a programming construct to an XML schema for describing the

programming construct (col. 13, lines 1-3).

Regarding dependent claims 6, 21 and 35, Ankireddipally discloses a one to one

mapping from at least one of properties, methods and events of the type system to an

XML schema for describing the at least one of properties, methods and events (col. 13,

lines 1-3).

7.   Claims 4, 19, and 33 remain rejected under 35 U.S.C. 103(a) as being

unpatentable over Ankireddipally et al. in view of Lucas et al. in further view of Bowman-

Amuah (U.S. Pub. No. 20030058277; publication date March 27, 2003; filed August 31,

1999).

Regarding dependent claims 4, 19 and 33, Ankireddipally does not disclose the

programming construct is one of a pointer programming construct, primitive type

programming construct, struct programming construct, class programming construct,

array programming construct, subtype programming construct, enumeration type

programming construct, service reference construct or bit field programming construct.

Bowman-Amuah teaches the programming construct is a pointer (p.170, para. 4317). It

would have been obvious to one of ordinary skill in the art, having the teachings of

Ankireddipally and Bowman-Amuah before him at the time the invention was made, to

modify the programming construct taught by Ankireddipally to include pointers as taught

by Bowman-Amuah, because pointers were well-known at the time of the invention and

using pointers would have allowed more users to utilize the invention since there was a familiarity with them.

8.   Claims 5, 20 and 34 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Ankireddipally et al. in view of Lucas et al. in further view of Burroughs et al. (U.S. Patent 6341289; patent date January 22, 2002; filed May 6, 1999).

Regarding dependent claims 5, 20 and 34, Ankireddipally does not disclose a one to one mapping from a constant value of complex type to an XML schema for describing the constant value of complex type and vice versa. Burroughs teaches mapping from a constant value to a schema (col. 9, lines 28-34). It would have been obvious to one of ordinary skill in the art, having the teachings of Ankireddipally and Burroughs before him at the time the invention was made, to modify mapping taught by Ankireddipally to include mapping a constant value to a schema as taught by Burroughs, because functionality and usability would be increased if constant values were included in mapping since those values would not have to be mapped repeatedly.

9.   Claims 7, 22 and 36 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Ankireddipally et al. in view of Lucas et al. in further view of Spertus et al. (U.S. Patent 6518979; patent date February 11, 2003; PCT filed April 29, 1998; provisional application filed April 30, 1997).

Regarding dependent claims 7, 22 and 36, Ankireddipally does not disclose TDL

supports inheritance of programming constructs. Spertus teaches inheriting

programming constructs (col. 6, lines 32-40). It would have been obvious to one of

ordinary skill in the art, having the teachings of Ankireddipally and Spertus before him at

the time the invention was made, to modify programming constructs taught by

Ankireddipally to include inheriting programming constructs as taught by Spertus,

because functionality and usability would be increased if programming constructs were

inherited since those properties and constructs would not have to be written repeatedly.

10.   Claims 8, 9, 23, 24, 37 and 38 remain rejected under 35 U.S.C. 103(a) as being

unpatentable over Ankireddipally et al. in view of Randle et al. (U.S. Pub. No.

20030212904; publication date November 13, 2003; filed June 11, 2003; continuation

filed May 25, 2000).

Regarding dependent claims 8, 23 and 37, Ankireddipally does not disclose the XML-

based IDL is the wire format for message communications relating to the service

between devices of the computing system. Randle teaches wire format for message

communications (p.6, para. 59). It would have been obvious to one of ordinary skill in

the art, having the teachings of Ankireddipally and Randle before him at the time the

invention was made, to modify XML taught by Ankireddipally to include wire format for

communications as taught by Randle, because wire formats were well-known at the

time of the invention and using wire formats would have allowed more users to utilize

the invention since there was a familiarity with that format.

Regarding dependent claims 9, 24 and 38, Ankireddipally does not disclose the XML-

based IDL enables a one to one mapping from the wire format to the message

communications and vice versa. Randle teaches mapping from the wire format to the

communications (p.4, para. 45). It would have been obvious to one of ordinary skill in

the art, having the teachings of Ankireddipally and Randle before him at the time the

invention was made, to modify XML taught by Ankireddipally to include mapping

between wire format and communications as taught by Randle, because functionality

and usability would be increased if the wire format was mapped to the communications

since the two would be linked together for quicker transactions.

11.   Claims 10, 25 and 39 remain rejected under 35 U.S.C. 103(a) as being

unpatentable over Ankireddipally et al. in view of Lucas et al. in further view of Randle et

al. (U.S. Pub. No. 20030212904; publication date November 13, 2003; filed June 11,

2003; continuation filed May 25, 2000).

Regarding dependent claims 10, 25 and 39, Ankireddipally does not disclose TDL

enables the transfer of a service reference across an application boundary. Randle

teaches the transfer across applications (p.2, para. 13). It would have been obvious to

one of ordinary skill in the art, having the teachings of Ankireddipally and Randle before

him at the time the invention was made, to modify the transfer taught by Ankireddipally

to include transferring across applications as taught by Randle, because transferring

across applications would allow the invention to be utilized in multiple settings which

would enhance usability and would allow a broader range of users access to the

invention.

12.   Claims 11, 26 and 40 remain rejected under 35 U.S.C. 103(a) as being

unpatentable over Ankireddipally et al. in view of Bowman-Amuah (U.S. Pub. No.

20030058277; publication date March 27, 2003; filed August 31, 1999).

Regarding dependent claims 11, 26 and 40, Ankireddipally does not disclose the

computing system is peer to peer distributed computing environment. Bowman-Amuah

teaches peer to peer computing (p.59, para. 1806). It would have been obvious to one

of ordinary skill in the art, having the teachings of Ankireddipally and Bowman-Amuah

before him at the time the invention was made, to modify the computing system taught

by Ankireddipally to include peer to peer computing as taught by Bowman-Amuah,

because peer to peer computing would allow multiple users to simultaneously work on

the same material which would enhance the invention since materials would be shared

during usage.

13.   Claims 12, 27 and 41 remain rejected under 35 U.S.C. 103(a) as being

unpatentable over Ankireddipally et al. in view of Berger et al. (U.S. Pub. No.

20040093344; publication date May 13, 2004; filed August 8, 2003; continuation filed
May 25, 2001).

Regarding dependent claims 12, 27 and 41, Ankireddipally does not disclose the
XML-based IDL is extendable to map additional constructs of a richer type system to an
XML schema and vice versa. Berger teaches XML extended to richer types (p.11, para.
196). It would have been obvious to one of ordinary skill in the art, having the teachings
of Ankireddipally and Berger before him at the time the invention was made, to modify
XML taught by Ankireddipally to include extending to other types as taught by Berger,
because extending XML to richer types would allow users with various skill levels to
utilize the invention since the language would be extendable to more complex types.

Response to Arguments

14.   Applicant's arguments filed April 25, 2005 have been fully considered but they
are not persuasive. Regarding independent claim 1, Applicants indicate that
Ankireddipally does not teach or suggest "describing the service with an extensible
markup language (XML)-based Interface Description Language (IDL) that one to one
maps a type of a particular type-based system to an XML schema and vice versa (p.12,
lines 18-21; p.13, lines 1-2). The Examiner disagrees because Ankireddipally teaches
describing the service with XML based language that maps a type to a schema (col. 5,
lines 42-45; col. 13, lines 1-3).

Furthermore, independent claims 13, 14, 15, 16, 28, 29 and 30 reflect the

computer readable mediums, modulated data signals and computing devices for

performing the same operations as claim 1 and are also rejected under Ankireddipally.

Claims 2-12, 17-27, 31-41depend from independent claims 1, 16 and 30.

Therefore claims 2-12, 17-27, 31-41are rejected at least based on the rationale of the

rejections above.

Conclusion

15.   THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

16.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

- Systems and methods for transmitting motion control data (U.S. Pub. No. 20020156872),

- Customizable element management system and method using element modeling and protocol adapters (U.S. Pub. No. 20030101251),

- Brokering semantics between web services (U.S. Pub. No. 20030163450).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristina B. Honeycutt whose telephone number is 571-272-4123. The examiner can normally be reached on 8:00 am - 5:00 pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on 571-272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KBH

CESAR PAULA
PRIMARY EXAMINER